

- ☐ Disengaging apparatus examined or tested and marked as required* 46 CFR 199.45(b)
SOLAS 74/78 III/41
MSM Ch. C2.H.2.b
- Universal joints
 - Safety latches
 - Hooks
 - Locking knuckles
 - Frame
- ☐ Motor lifeboats* 46 CFR 199.45(b)
SOLAS 74/78 III/41
MSM Ch. C2.H.2
- Engine operating test
 - Cooling water pump
 - Ahead and astern test
 - Fuel tanks
 - Searchlight test (passenger vessels)
 - Annual fuel changed
 - Extinguishers serviced
- ☐ Hand-propelled lifeboats* 46 CFR 199.45(b)
- Flemming gear
 - Transmission oil
- ☐ Radio installation for lifeboats complies with FCC and/or international convention (where required)* 46 CFR 199.60
SOLAS 74/78 III/6
- Portable
 - Fixed
- ☐ Lifeboat operational test* 46 CFR 199.45(b)
SOLAS 74/78 III/19
MSM Ch. C2.H.2.b
- ☐ Davits 46 CFR 160.032
SOLAS 74/78 III/48
MSM Ch. C2.H.2.b
- Foundations
 - Moving parts
 - Fittings
 - Fairleads, cleats, or cruciform bits
- ☐ Falls (date last renewed or end-for-ended) 46 CFR 199.190(j)
SOLAS 74/78 III/48
MSM Ch. C2.H.8
- _____

* Items tested in conjunction with Abandon Ship Drill.

Notes: _____

- ☐ Lifeboat winches 46 CFR 199.199(i)
SOLAS 74/78 III/19
MSM Ch. C2.H.2.b
- Brakes
 - Controls
 - Cranks
 - Covers
 - Limit switches and electrical controls
- ☐ Embarkation aids 46 CFR 199.190(f)
SOLAS 74/78 III/11
- Ladders
 - Access
 - Spans and lifelines
 - Illumination
 - Frapping and tricing lines
- ☐ Lifeboat weight test 46 CFR 199.45(b)
SOLAS 74/78 III/19
MSM Ch. C2.H.6
- Light load
 - Full load: date _____
- ☐ Liferafts 46 CFR 199.190
SOLAS 74/78 III/19
SOLAS 74/78 III/26
MSM Ch. C2.H.3
46 CFR 199.190(g)
- Launching instructions posted
 - Equipment and stowage
 - Annual service dates
- _____
- _____
- _____
- Hydro release service dates 46 CFR 199.190(h)
- _____
- _____
- _____
- Weak link
 - Float free
 - Illumination
 - Markings
 - Capacities
 - Launching devices tested

Notes: _____

☐ Lifeboat equipment and stowage
(use table below to determine required equipment)

46 CFR 199.175
SOLAS 74/78 III/41

Item Number	Item	International Voyage		Short International Voyage	
		Lifeboat	Rescue Boat	Lifeboat	Rescue Boat
1	Bailer ¹	1	1	1	1
2	Bilge pump ²	1		1	
3	Boathook	2	1	2	1
4	Bucket ³	2	1	2	1
5	Can opener	3		3	
6	Compass	1	1	1	1
7	Dipper	1		1	
8	Drinking cup	1		1	
9	Fire extinguisher	1	1	1	1
10	First aid kit	1	1	1	1
11	Fishing kit	1			
12	Flashlight	1	1	1	1
13	Hatchet	2		2	
14	Heaving line	2	2	2	2
15	Jackknife	1		1	
16	Knife ^{1,4}		1		1
17	Ladder	1	1	1	1
18	Mirror, signalling	1		1	
19	Oars, units ^{5,6}	1	1	1	1
20	Painter	2	1	2	1
21	Provisions (units/persons)	1			
22	Pump ⁷		1		1
23	Radar reflector	1	1	1	1
24	Rainwater collection device	1		1	
25	Repair kit ⁷		1		1
26	Sea anchor	1	1	1	1
27	Searchlight	1	1	1	1
28	Seasickness kit (units/person)	1		1	

☐ Immersion suits

- Condition
- Retro-reflective material

46 CFR 199.273
SOLAS 74/78 III/27.3
SOLAS 74/78 III/30.2.7
MSM Ch. C2.H.5

☐ Placard of lifesaving signals

46 CFR 35.12
SOLAS 74/78 V/16

☐ Pilot ladder and hoists in good condition

46 CFR 32.90-1
SOLAS 74/78 V/17

☐ Station bill posted

46 CFR 35.10-1
46 CFR 199.80
SOLAS 74/78 III/8.3

☐ Distress signals

- 12 rocket parachute flares

46 CFR 199.60
SOLAS 74/78 III/6.3

Fire Protection Equipment:

☐ Fire control plan

- Permanently posted
- Copy permanently stored in weathertight container outside deckhouse

46 CFR 35.10-3
SOLAS 74/78 II-2/20

☐ Portable extinguishers

- Annually serviced
- Bottles hydrostatically tested (every 5 years)
- Markings (weight and hydrostatic test date)
- Spare charges, spare extinguishers

46 CFR 34.05-10
46 CFR 34.50
46 CFR 31.10-18(a)
SOLAS 74/78 II-2/6
SOLAS 74/78 II-2/21
MSM Ch. C2.I.3
NVIC 7-70
NVIC 13-86

☐ Semiportable extinguishers

- Annually serviced
- Bottles hydrostatically tested (every 12 years)
- Controls, instructions, markings
- Hose and diffuser
- Flexible loops tested or replaced (same as bottle)

46 CFR 34.05-10
46 CFR 34.50
46 CFR 31.10-18(a)
SOLAS 74/78 II-2/6
SOLAS 74/78 II-2/21
MSM Ch. C2.I.4
NVIC 13-86

Notes: _____

Inert Gas Systems:

- | | |
|---|---|
| <input type="checkbox"/> Purity of nitrogen _____ | 46 CFR 32.53
SOLAS 74/78 II-2/62
MSM Ch. C5 |
| <input type="checkbox"/> % concentration of nitrogen in vapor space _____ | |
| <input type="checkbox"/> % oxygen vapor _____ | |
| <input type="checkbox"/> Provisions for hold space and tank pad | |
| <input type="checkbox"/> Sampling / testing of gas pad | |
| <input type="checkbox"/> Gas generator or spare gas on board | 46 CFR 32.53-20 |
| <input type="checkbox"/> General | |
| • Supply capacity adequate | |
| • Positive pressure | 46 CFR 32.50-30 |
| • Independent blowers | 46 CFR 32.53-45 |
| • Oxygen detector and recorder | 46 CFR 32.53-60 |
| • Pressure indicator and recorder | |
| • Portable detecting instruments | |
| • Alarms and controls | 46 CFR 32.53-70 |
| – High oxygen alarm (> 8%) | |
| – Low pressure alarm (< 100mm) | |
| – Loss of water supply to deck water seal alarm and shutdown | |
| – High inert gas temperature (> 150°F) alarm and shutdown | |
| – Loss of water supply to scrubber alarm and shutdown | |
| • Automatic shutdown valve | 46 CFR 32.53-75 |
| • Instruction manual | 46 CFR 32.53-85 |

Vapor Control Systems:

- | | |
|---|----------------|
| <input type="checkbox"/> Piping | 46 CFR 39.20-1 |
| • Drain lines | |
| • Electrically bonded to hull | |
| • Flange stud | |
| • Vapor connection painted red / yellow / red and labeled vapor in 2-inch black letters | |

Notes: _____

- | | |
|--|--|
| <input type="checkbox"/> Fire stations | 46 CFR 34.10-10
NVIC 6-72, Change 1
SOLAS 74/78 II-2/4
SOLAS 74/78 II-2/21
MSM Ch. C2.I.9
MSM Ch. C2.I.8
46 CFR 34.25-20 |
| • Hydrants (2 effective streams) | |
| • Nozzles and spanners | |
| • Fog applicators (<6 feet in length, in engine room) | |
| • Hose | |
| – UL approved | |
| – Correct length | |
| • Markings | 46 CFR 32.05-5 |
| • Equipment compatible | |
| <input type="checkbox"/> Total length of all hose tested _____ | 46 CFR 34.10-10
MSM Ch. C2.I.6
46 CFR 31.10-18(g) |
| • Hydrostatically tested to at least 100 psi | |
| • Proper threads | |
| • Approved hose | |
| <input type="checkbox"/> Structural fire protection | 46 CFR 32.56
46 CFR 32.57
46 CFR 34.05
46 CFR 34.10
46 CFR 34.15
46 CFR 35.10-3
SOLAS 74/78 II-2/42 |
| • Bulkheads | |
| • Insulation | |
| <input type="checkbox"/> Fire doors and controls tested | 46 CFR 32.56-35
46 CFR 111.103-1
SOLAS 74/78 II-2/46
SOLAS 74/78 II-2/47 |
| • Machinery space and stair towers | |
| • Not tied or blocked open | |
| • Installed closure devices working | |
| <input type="checkbox"/> Remote controls to power ventilation marked and tested | 46 CFR 111.103-1 |
| <input type="checkbox"/> Closures for spaces protected by fixed smothering systems | |
| <input type="checkbox"/> International shore connection | 46 CFR 34.10-15(d)
SOLAS 74/78 II-2/19 |
| <input type="checkbox"/> Fire axe | 46 CFR 34.60
46 CFR 32.05-5 |
| • Markings | |

Notes: _____

<input type="checkbox"/>	Cargo tanks	
	<ul style="list-style-type: none"> • Trunks and hatches • Ullage openings • Liquid level gauges 	46 CFR 32.20-20 46 CFR 39.20-3
	Open	
	Restricted	
	Closed	
	<ul style="list-style-type: none"> • Liquid level devices • Deck penetrations • Heating coils • Explosion-proof electrical fittings • Overfill device 	46 CFR 32.22T 46 CFR 32.50-15 46 CFR 111.105 33 CFR 155.840
<input type="checkbox"/>	Cargo piping	46 CFR 32.50-15 33 CFR 156.170 46 CFR 56.30
	<ul style="list-style-type: none"> • Expansion joints • Controls • Supports • Hoses • Valves 	46 CFR 56.35 46 CFR 56.20
<input type="checkbox"/>	Hoses	46 CFR 32.50-30
	<ul style="list-style-type: none"> • External examination • Hydrostatic test • Markings 	33 CFR 155.800 33 CFR 156.170 33 CFR 154.500
<input type="checkbox"/>	Cargo oil containment	33 CFR 155.310 SOLAS 74/78 II-2/59
	<ul style="list-style-type: none"> • Size • Drains • Scupper closures 	

Notes: _____

<input type="checkbox"/>	Oily waste retention	33 CFR 157.17 MSM Ch. B6.D.7
	<ul style="list-style-type: none"> • Bilge • Tank 	
<input type="checkbox"/>	Ballast discharge	33 CFR 155.330 33 CFR 155.350 33 CFR 155.360 33 CFR 155.370 MSM Ch. B6.D.10
	<ul style="list-style-type: none"> • Acceptable processing equipment 	
<input type="checkbox"/>	Oily bilge discharge	33 CFR 155.380
	<ul style="list-style-type: none"> • Piping system • Stop valve • Standard discharge connection • Pump stop 	33 CFR 155.430
<input type="checkbox"/>	Prohibited oil spaces	33 CFR 155.470
<input type="checkbox"/>	Emergency shutdown	33 CFR 155.780
<input type="checkbox"/>	Discharge removal equipment	33 CFR 155.205 33 CFR 155.210
	<ul style="list-style-type: none"> • Sorbents • Non-sparking tools • Containers • Emulsifiers • Protective clothing • Scupper plugs • Non-sparking portable pump 	
<input type="checkbox"/>	Deck lighting	33 CFR 155.790
<input type="checkbox"/>	Garbage	33 CFR 151.63 MARPOL Ax. V/3
	<ul style="list-style-type: none"> • Shipboard garbage properly disposed 	
<input type="checkbox"/>	Discharge from machinery space bilges	33 CFR 151.10
	<ul style="list-style-type: none"> • Approved monitoring and control system • Approved oil water separating equipment 	

Notes: _____

- ☐ Catwalks, lifelines at hazardous places, cable traveler 46 CFR 32.02-10
- ☐ Elevators 46 CFR 111.91
- ☐ Watertight doors in subdivision bulkhead tested by:
 - Local and remote control 46 CFR 111.97
 - Alarms 46 CFR 170.248
 - Markings 46 CFR 170.270
- ☐ Cargo gear examined (in absence of Cargo Gear Certificate)
 - Records 46 CFR 31.10-16
 - Safe Working Load markings 46 CFR 31.37
- ☐ Exercise valves and controls 46 CFR 38.10
 - Bilge valves
 - Overboard discharge valves
 - Equalizing valves
 - Emergency shutoff valves
 - Scupper valves
 - Remote control
 - Reach rods
- ☐ Bilge wells, cofferdams, and suctions 46 CFR 56.50-50
- ☐ Bulkhead penetrations MSM Ch. B1.E.6
- ☐ Piping protection MSM Vol. IV Ch. 3.G.2.b
 - Removable guards (where required)
 - Baggage spaces
- ☐ Hull marks
 - Name 46 CFR 67.120
 - Hailing port 46 CFR 32.05-10
 - Official number
 - Net tonnage

Notes: _____

Section 4: Additional Inspection Items for Vessels Carrying Dangerous Chemicals in Bulk

Emergency Equipment:

- ☐ Safety gear lockers
 - Proper locations (minimum of 2)
 - Labeled "Safety Equipment"
 - Proper type and amount of safety equipment 46 CFR 153.214

Equipment	Amount Required per Safety Gear Locker Location	
	Primary Shutdown Station	Secondary Shutdown Station
2 stretchers with lifting equipment	1	1
30-minute SCBA	3	2
SCBA refill tanks	11	6
First aid equipment	2	1
Overalls or long apron	2	1
Boots	2	1
Long-sleeved gloves	2	1
Goggles	2	1
Steel-cored lifeline with harness	2	1
Explosion-proof flashlight	2	1

- ☐ Self-contained breathing apparatus
 - Material condition
 - Operation
- ☐ Decontamination showers and eye wash on deck 46 CFR 153.216
 - Operation
 - Suitably marked

Notes: _____

<input type="checkbox"/>	Galley	MSM Ch. B1.N.8
	<ul style="list-style-type: none"> • Equipment • Sanitation • Ventilation 	
<input type="checkbox"/>	Means of escape from accommodation, machinery, and other spaces	46 CFR 32.02-1 SOLAS 74/78 II-2/45
	<ul style="list-style-type: none"> • Two required (some exceptions) • Dead end corridors • Absence of locks 	
<input type="checkbox"/>	Notices and markings where required	46 CFR 35.40
	<ul style="list-style-type: none"> • Conspicuous • Legible • Proper size 	
<input type="checkbox"/>	Gas freeing for repairs	MSM Ch. A5.H
	<ul style="list-style-type: none"> • Current Gas Chemist Certificate for areas as required • Date _____ • Chemist No. _____ 	
<input type="checkbox"/>	Paint stowage	46 CFR 32.85
	<ul style="list-style-type: none"> • Closures • Fireproof / metal lined • Lighting / electrical • Fire protection • Markings 	SOLAS 74/78 II-2/18.7
<input type="checkbox"/>	Storerooms	
	<ul style="list-style-type: none"> • Stowage • Fire hazards • Lighting and wiring 	
<input type="checkbox"/>	Oxygen sensor (oxygen analysis equip.)	SOLAS 74/78 VI/3.1
<input type="checkbox"/>	Combustible gas indicator	46 CFR 35.30-15 NVIC 12-86
<input type="checkbox"/>	LPG systems, cylinders, tests	46 CFR 61.15-10
Notes: _____		

<input type="radio"/>	Special tank linings	46 CFR 153.266
<input type="radio"/>	Heating system	46 CFR 153.430
	<ul style="list-style-type: none"> • If toxic cargoes only, system must be separate from vessel's heating system and contamination detection must be available 	
<input type="radio"/>	Cooling system	46 CFR 153.432
<input type="radio"/>	Cargo high pressure and temperature alarms	46 CFR 153.438
	<ul style="list-style-type: none"> • Audible • Visual • Location 	
<u>Cargo Piping:</u>		
<input type="radio"/>	Material condition	
	<ul style="list-style-type: none"> • Annual hydrostatic test • Properly marked 	33 CFR 156.170 46 CFR 15.294
<input type="radio"/>	Valves	46 CFR 153.283
	<ul style="list-style-type: none"> • Tank valves • Hose connection points 	
<input type="radio"/>	Agreement with plans	46 CFR 153.910
	<ul style="list-style-type: none"> • New piping • No unauthorized modification 	
<input type="radio"/>	Prohibited materials	46 CFR 153.236
	<ul style="list-style-type: none"> • Aluminum or aluminum alloys • Copper or copper alloys • Zinc, galvanized steel, or alloys having > 10% zinc • Magnesium • Lead • Silver or silver alloys • Mercury 	

Notes: _____

☐	Radio equipment	47 CFR Part 80
		33 CFR 26.03
		SOLAS 74/78 V/7
		SOLAS 74/78 V/12
☐	Internal communications and control system	33 CFR 164.41
		NVIC 9-93
		46 CFR 113.30
		46 CFR 113.35
☐	Navigation lights and signals	MSM B1.J.4
		46 CFR 32.30-1
		46 CFR 113.50
		72 COLREGS
☐	Steering gear	46 CFR 111.75-17
		MSM Ch. B1.J.5.c
		MSM Ch. C2.J
		46 CFR 32.15-5
☐	Steering gear	33 CFR 81.9
		46 CFR 31.10-15
		46 CFR 61.20-1
		46 CFR 58.25
☐	Steering gear	33 CFR 164.35
		33 CFR 164.39
		46 CFR 113.43
		SOLAS 74/78 II-1/29
☐	Steering gear	SOLAS 74/78 II-1/30
		SOLAS 74/78 V/19-1
		SOLAS 74/78 V/19-2
		MSM Ch. C4.F
☐	Steering gear	NVIC 1-69
		NVIC 1-81

Notes: _____

○	Vent outlets	46 CFR 153.350
	<ul style="list-style-type: none">• Height above highest cargo area working level• Directed vertically upward• Flame arrestor (where required)• Weather hood• Flame screens• Located away from air intakes and openings to accommodation spaces	46 CFR 153.351 46 CFR 153.352
○	P/V valves	46 CFR 153.368
	<ul style="list-style-type: none">• Material condition• Operation• Flame screens	46 CFR 153.463
<u>Gauging:</u>		
○	Type of gauging system	46 CFR 153.400
	Open	
	Restricted	
	Closed	
○	High-level alarms	46 CFR 153.409
	<ul style="list-style-type: none">• Operation• Audible and visual signals• Last tested and inspected _____• Markings	
○	Overfill controls	46 CFR 153.408
	<ul style="list-style-type: none">• Set points	
○	Cargo samples	46 CFR 153.935(a)
	<ul style="list-style-type: none">• Designated stowage locations• Ventilation	

Notes: _____

- ☐ Vessel response plan
 - Approved by Coast Guard
 - Annual review by owner / operator
- ☐ Verify vessel has access to shore-based computerized damage stability programs
- ☐ Oil transfer procedures
 - Posted
 - List of products carried by vessel
 - Description of transfer system including a line diagram of piping
 - Number of persons required on duty
 - Duties by title of each person
 - Means of communication
 - Procedures to top off tanks
 - Procedures to report oil discharges

33 CFR 155.1030
 33 CFR 155.1035
 33 CFR 155.1065
 33 CFR 155.1070

 33 CFR 155.240

 33 CFR 155.720
 MARPOL 73/78 I/20

Chemical Cargo Records:

- ☐ Approved Procedures & Arrangement Manual
- ☐ Cargo record book
- ☐ Cargo information cards
- ☐ Cargo location plan
 - Cargo compatibility
- ☐ Cargo piping plan
- ☐ Shipping document
- ☐ Waiver letters carried
- ☐ Certificate of inhibition or stabilization
 - Date added to cargo
 - Length of time effective
 - Temperature limitations
- ☐ Current copy of 46 CFR Parts 35, 150, and 153 aboard

46 CFR 153.490(a)
 46 CFR 153.490(b)

 46 CFR 153.490

 46 CFR 153.907

 46 CFR 153.907

 46 CFR Part 150

 46 CFR 153.910

 46 CFR 153.907

 46 CFR 153.10

 46 CFR 153.912

 46 CFR 153.905

Notes: _____

- ☐ Cable
 - Condition
- ☐ Electrical fixtures on deck
 - Explosion-proof or intrinsically safe
 - No frayed or exposed wires
 - Material condition

NVIC 2-89

Gas Detection:

- ☐ Portable gas detectors
 - Number _____
 - Type
 - Flammable gas detectors
 - Calibrated
 - Tested
 - Toxic gas detectors
 - Capable of measuring all toxic cargoes authorized to be carried
 - Calibrated
- ☐ Fixed gas detectors
 - Calibration
 - Crew knowledgeable in operation
 - Span gas available
 - Zeroing
 - Calibration curves available for all cargoes carried
 - Tested

46 CFR 153.465

 46 CFR 153.526

 46 CFR 153.526

Notes: _____

Certificates:

- | | | |
|--------------------------|--|--|
| <input type="checkbox"/> | COI posted | 46 CFR 31.05-5
46 CFR 153.901 |
| | <ul style="list-style-type: none">• All pages visible | |
| <input type="checkbox"/> | ISM Code | SOLAS 74/78 IX/3 |
| | <ul style="list-style-type: none">• Safety Management System• Shipboard Operations Plan | |
| <input type="checkbox"/> | Stability letter posted | 46 CFR 35.08-1 |
| <input type="checkbox"/> | Waste management plan
(oceangoing vessels ≥ 40 feet) | 33 CFR 151.57 |
| <input type="checkbox"/> | Annual drug and alcohol program audit | 46 CFR Part 16 |
| <input type="checkbox"/> | Officers' licenses current | 46 CFR 35.05-1 |
| <input type="checkbox"/> | GMDSS endorsement | 47 CFR Part 80 |
| | FCC Station License | |
| | Safety Radio Certificate | |
| <input type="checkbox"/> | GMDSS maintenance personnel | 47 CFR 80.1074 |
| | 1st Class Radiotelegraph Operator's Certificate | |
| | 2nd Class Radiotelegraph Operator's Certificate | |
| | 3rd Class Radiotelegraph Operator's Certificate | |
| <input type="checkbox"/> | Required international safety convention
certificates posted and valid | 46 CFR 31.40-35 |
| <input type="checkbox"/> | Liferaft servicing certificates | 46 CFR 160.151-57(p)
SOLAS 74/78 III/19.8 |
| | <ul style="list-style-type: none">• Annual service | |
| <input type="checkbox"/> | Cargo Gear Certificate | 46 CFR 31.37-75 |

Notes: _____

☐ **Abandon Ship Drill:**

- | | | |
|--|----------------------------|-------------------------------|
| General alarms / signals | Familiarity with duties | Boat release |
| Muster lists | Provide equipment | Boat operation |
| Muster of crew | Familiarity with equipment | Egress procedures |
| Crew response | Lower lifeboat | Davit-launched liferaft drill |
| Language understood by crew | Brake operation | Communication w/ bridge |
| Lifejackets | Engine start | Lighting |
| (SOLAS 74/78 III/18.3; MSM Vol. II/D5.C.7.h) | | |

Location: _____ Time to Water: _____

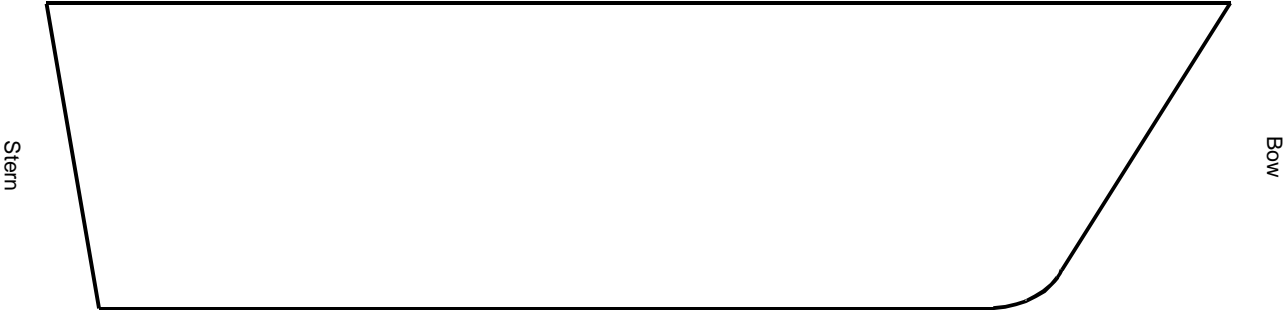
Notes: _____

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Section 2: Certificates and Documents

Name of Certificate	Issuing Agency	ID #	Port Issued	Issue Date	Exp. Date	Endors. Date
Certificate of Documentation No Change	USCG					
Classification Document No Change						
Certificate of Financial Responsibility (COFR) No Change	USCG					
Safety Construction (SLC) No Change						
Safety Equipment (SLE) No Change	USCG					
Safety Radio (SLT) No Change						

4



41

Involved Parties & General Information:

Vessel's Representatives

Phone Numbers

Owner—Listed on DOC or COFR
No Change

Operator
No Change

Prohibited Chemical Cargoes:

The following cargoes have been determined to be too hazardous to be carried in U.S. waters:

1. Acrolein
2. Chlorine (on self-propelled vessels)
3. Ethylenimine
4. Hydrofluoric Acid
5. Hydrogen
6. Hydrogen Chloride
7. Hydrogen Fluoride
8. Methylcyclopentadienyl Manganese Tricarbonyl
9. Nitric Acid (in concentrations > 70%)
10. Nitrogen Tetroxide
11. Oxygen
12. Phosphorus Trichloride
13. (Beta) Propiolactone

Section 1: Administrative Items

Section 2: Certificates and Documents

Section 3: Inspection Items for All Vessels

Section 4: Additional Inspection Items for Vessels Carrying Dangerous Chemicals in Bulk

Section 5: Drills

Section 6: Appendices

Name of Vessel

VIN

Deficiency

MSIS
Code**Req't. Issued /
Date Completed**

Total Time Spent Per Activity:

Regular Personnel (Active Duty)			
ACTIVITY TYPE	ACTIVITY	TRAINING	(PERS) MI

TOTAL ADMIN HOURS	TOTAL TRAVEL HOURS
-------------------	--------------------

Reserve Personnel			
ACTIVITY TYPE	ACTIVITY	TRAINING	(PERS) MI

TOTAL ADMIN HOURS	TOTAL TRAVEL HOURS
-------------------	--------------------

Auxiliary Resources	
TOTAL BOAT HOURS	TOTAL AIRCRAFT HOURS

Conversions:

Distance and Energy				
Kilowatts (kW)	X	1.341	=	Horsepower (hp)
Feet (ft)	X	3.281	=	Meters (m)
Long Ton (LT)	X	.98421	=	Metric Ton (t)
Liquid (NOTE: Values are approximate.)				
Liquid	bbl/LT	m ³ /t	bbl/m ³	bbl/t
Freshwater	6.40	1.00	6.29	6.29
Saltwater	6.24	.975	6.13	5.98
Heavy Oil	6.77	1.06	6.66	7.06
DFM	6.60	1.19	7.48	8.91
Lube Oil	7.66	1.20	7.54	9.05
Weight				
1 Long Ton	=	2240 lbs	1 Metric Ton	= 2204 lbs
1 Short Ton	=	2000 lbs	1 Cubic Foot	= 7.48 gal
1 Barrel (oil)	=	5.61 ft = 42 gal = 6.29 m ³	1 psi	= .06895 Bar = 2.3106 ft of water
Temperature: Fahrenheit = Celsius (°F = 9/5 °C + 32 and °C = 5/9 (°F – 32))				
0	=	-17.8	80	= 26.7
32	=	0	90	= 32.2
40	=	4.4	100	= 37.8
50	=	10.0	110	= 43.3
60	=	15.6	120	= 48.9
70	=	21.1	150	= 65.6
200	=	93.3	250	= 121.1
300	=	148.9	400	= 204.4
500	=	260	1000	= 537.8
Pressure: Bars = Pounds per square inch				
1 Bar	=	14.5 psi	5 Bars	= 72.5 psi
2 bars	=	29.0 psi	6 Bars	= 87.0 psi
3 Bars	=	43.5 psi	7 Bars	= 101.5 psi
4 Bars	=	58.0 psi	8 Bars	= 116.0 psi
9 Bars	=	130.5 psi	10 Bars	= 145.0 psi